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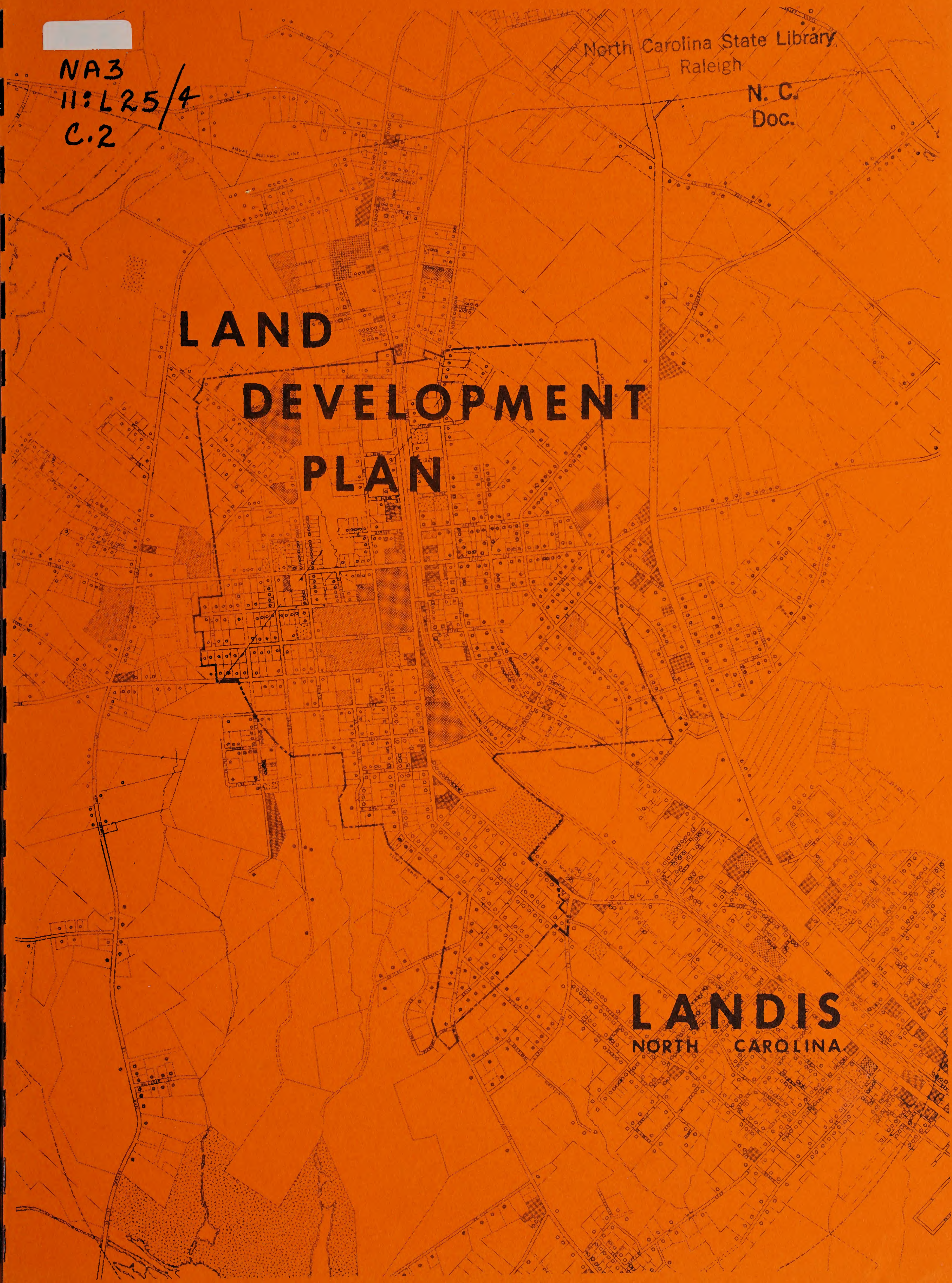

LAND DEVELOPMENT PLAN

LANDIS
NORTH CAROLINA

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INTRODUCTION

CHAPTER I

INTRODUCTION

This is a proposed plan for the Landis planning area, which is defined to include the Town of Landis and the one mile outlying areas which are likely to feel the impact of the town's growth over the next 20 years. The Landis planning area is generally reflected on the maps included throughout this report.

The Development Plan and the accompanying maps which illustrate it contain statements and conclusions regarding: (1) the present use of land within the Landis planning area; (2) the proposed future use of land; and (3) a preliminary thoroughfare plan. The main purpose of the plan is to provide the basis for coordinating the programs, policies, and agencies concerned with the future growth of Landis and its surrounding area. It is the purpose of this chapter to suggest the context and organization of the plan and to recommend to the user the relevance and relationship of the various chapters to the whole.

Chapter Two deals with the physical environment of the Landis planning area, briefly setting forth its climate, soil, geologic, and topographic characteristics. These physical constraints, either individually or collectively, provide the basis for determining the suitability of the land in the planning area for urban development.

Chapter Three identifies what is anticipated will be achieved in Landis through the process of comprehensive planning for future growth and development. These objectives are at once the heart and the starting point of Landis' planning program; they will be subject to reevaluation and restatement as the plan develops and is implemented over the coming years.

Chapter Four sets forth the existing pattern of land use. Patterns of development in the past provide the foundation for both current building activity and future development. The Land Use Survey conducted over the period of August to September, 1970 is the basis for this chapter and provides data relating to the specific use of land and the estimated total amounts of land devoted to each use.

A summary of housing conditions is presented in Chapter Five as well as an accompanying map of blighted areas which is shown on the Existing Land Use Map.

Chapter Six is the Land Development Plan. Contained within this element are future population projections for Landis and the outlying area as well as state development goals and factors affecting development.

Chapter Seven, the Future Land Use Plan, is a guide for the long-range physical development of the Town of Landis and the planning area. Again, it should be emphasized that this plan is not a completed and final product; instead, it is a compilation of policies which should be reviewed periodically and modified as new trends develop or unforeseen situations arise.

Chapter Eight is a preliminary or proposed thoroughfare plan for the Landis planning area. The objective of this chapter is to provide for the safe, orderly, and efficient circulation of people and goods within and through the area. It should be emphasized that the circulation system is not presented here simply as a necessary element serving established land uses; rather, it is presented as a creative element with the power to change travel patterns, to create and change land uses, and to determine the structure of the area for decades.

Chapter Nine contains a brief discussion of the various means for implementing the plan. It contains an explanation of the relationship between the plan and the tools of zoning, subdivision regulations, etc.

The Environmental Assessment is contained in Chapter Ten. This is a statement which relates to any development policies that might have a detrimental effect on the Landis environment. This statement has only recently been required by the Housing and Urban Development office (1972). Their purpose was to increase awareness of the environmental implications of growth. In short, the assessment statement reflects the increased attitude of environmental concern and its desire to save it before it is destroyed.

In combination, the Land Use Survey and Analysis, the preliminary thoroughfare plan, and the Future Land Use Plan form the basis for making decisions about the environment. The entire planning area will most likely not be developed over the planning period. However, the concepts and principles which underlie the plan should continue to be valid. For example, those areas where improperly mixed residential development and commercial land use occur may continue to exist for many years. Local government can, however, encourage the eventual elimination of such areas through reasoned and consistent enforcement of zoning ordinance provisions.

History

The Town of Landis was incorporated March 7, 1901. Prior to incorporation Landis was known as High Point because it was the highest point on the Southern Railroad in the area. The present settlement of Landis and its official name was the result of a half dozen farmers in the area south of China Grove deciding to establish a cotton mill and employing residents in this settlement. Money was hard to come by around the turn of the century, so these farmers decided to build a mill themselves from the clay ground on the Columbus (Squire) Linn farm. The lumber was sawed and planed from the forest surrounding the area. In 1899 the first stakes were driven to start construction of the first 200 by 140 foot cotton mill. It was the interest of C. A. Linn, C. J. Deal, Lotan A. Corriher, J. P. Linn, D. B. Coltrone and O. L. Linn that established the economic base for High Point. Secondly, following the founding of the first mill was the petitioning and granting of a post office in what is now Landis. China Grove was the nearest post office around 1900, and roads between the two settlements were few and scattered with mud holes. It soon became evident that High Point needed a post office. However, the post office department would not allow the community to be called High Point.

In 1901 the U. S. Government brought an anti-trust suit against a major United States oil company. The judge residing on the anti-trust case was Judge Kenesaw "Mountain" Landis. As a result of the large sum of money involved, 29 million dollars, and the name of the judge in the case, a motion was made one evening in an informal discussion that the town be named Landis. The motion was adopted by the community leaders and the name Landis was submitted to the post office department. The post office department did not object and on March 7, 1901, the North Carolina General Assembly ratified the incorporation of the Town of Landis, North Carolina.

Landis had its largest population increase of 122.4 percent between 1910 to 1920. The 1960 population for Landis was 1,763 individuals which represented a -3.5 percent from a population of 1,827 in 1950. However, between 1960 and 1970 the Town of Landis population grew from 1,763 in 1960 to 2,297 people in 1970. This represented a 30.3 percent increase over the planning period.

PHYSICAL CHARACTERISTICS

CHAPTER II

PHYSICAL CHARACTERISTICS

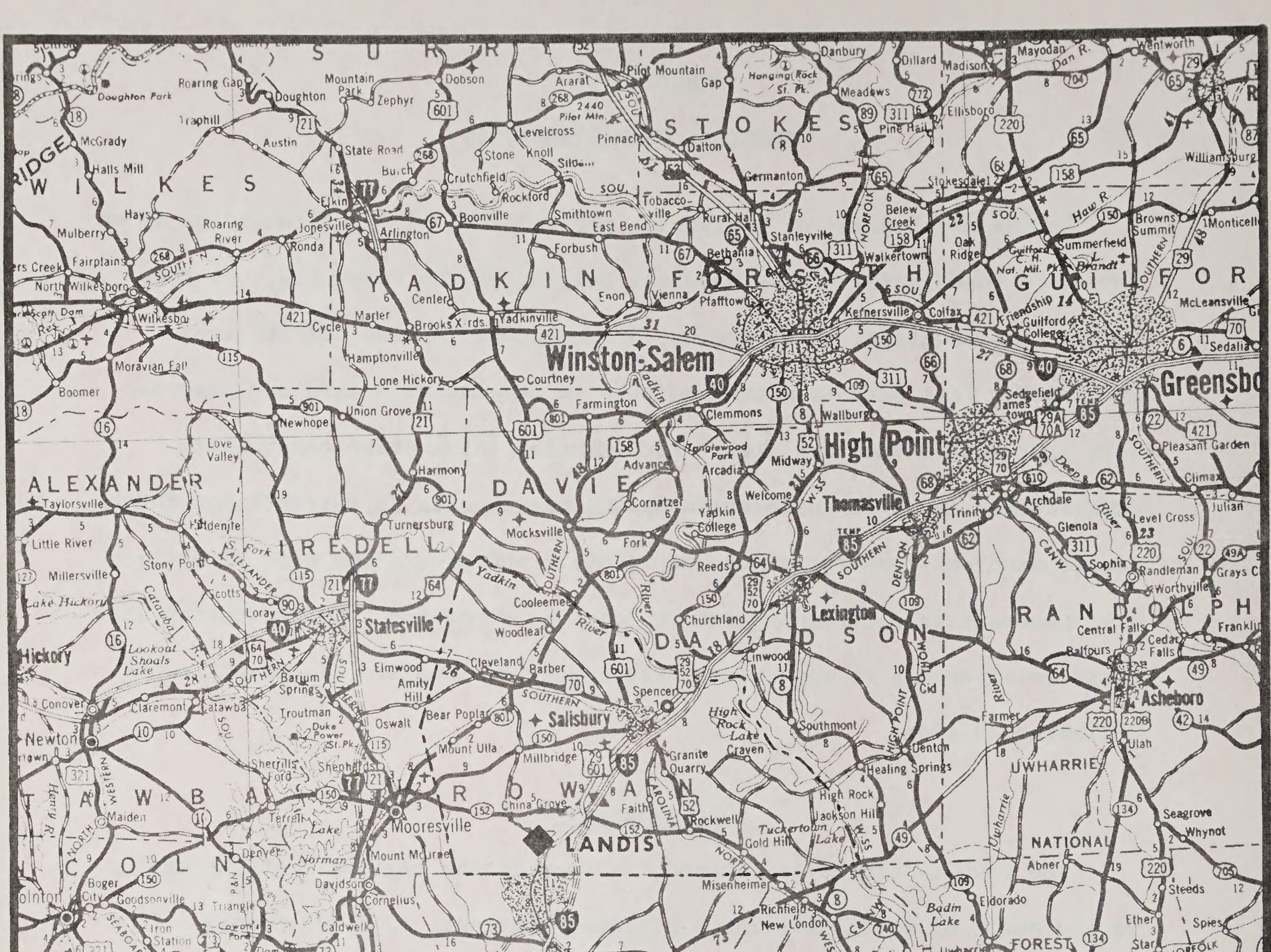
In the development of a planning program, one of the first steps is to provide a description of the physical setting of the community. In this chapter the location, physiography, drainage, soils, and climate are discussed. This data is a prerequisite in developing a land use plan as well as a future land use plan. For example, information about soil capabilities is vital in determining whether an area is suitable for future development, and conditions such as rainfall and prevailing wind directions are important in determining future land use standards. These factors and their relationship to the future development of land are discussed in the following section.

Physiography

The Town of Landis is located, as seen in the regional setting map, in the heart of North Carolina's Piedmont Crescent, in Rowan County. It is 15 miles southwest of Salisbury, North Carolina and approximately 25 miles northeast of Charlotte, North Carolina.

Topography

Landis as well as the remaining segments of Rowan County are typically piedmont. Characteristic of this land form is a terrain of fertile valleys, rolling hill sand meandering streams. The average elevation of Landis is approximately 812 feet above sea level. This will vary, however, from 750 feet in the northeast section of Landis to 875 feet in the southeast sectors of the town.



REGIONAL SETTING

MAP-1

Geology

There are two separate and distinct geologic regions in Rowan County. Igneous rock from the Carboniferous age covers approximately 80 percent of the county. The other region with which Landis is associated is the Carolina Slate Belt, a volcanic series which is located in the extreme southern corner of Rowan County.

Landis is primarily within the Diorite and Galbro-Diorite, Diorite and Granite classification, Diorite being predominant. These classifications of rock formations are predominate in Landis.

Diorite is found extensively throughout the county; usually mixed in some percentage with granite. Because of weathering, diorite and galbro-diorite undergo considerable changes near the surface. Map 2 reveals topographical as well as geological characteristics for Landis and part of Rowan County.

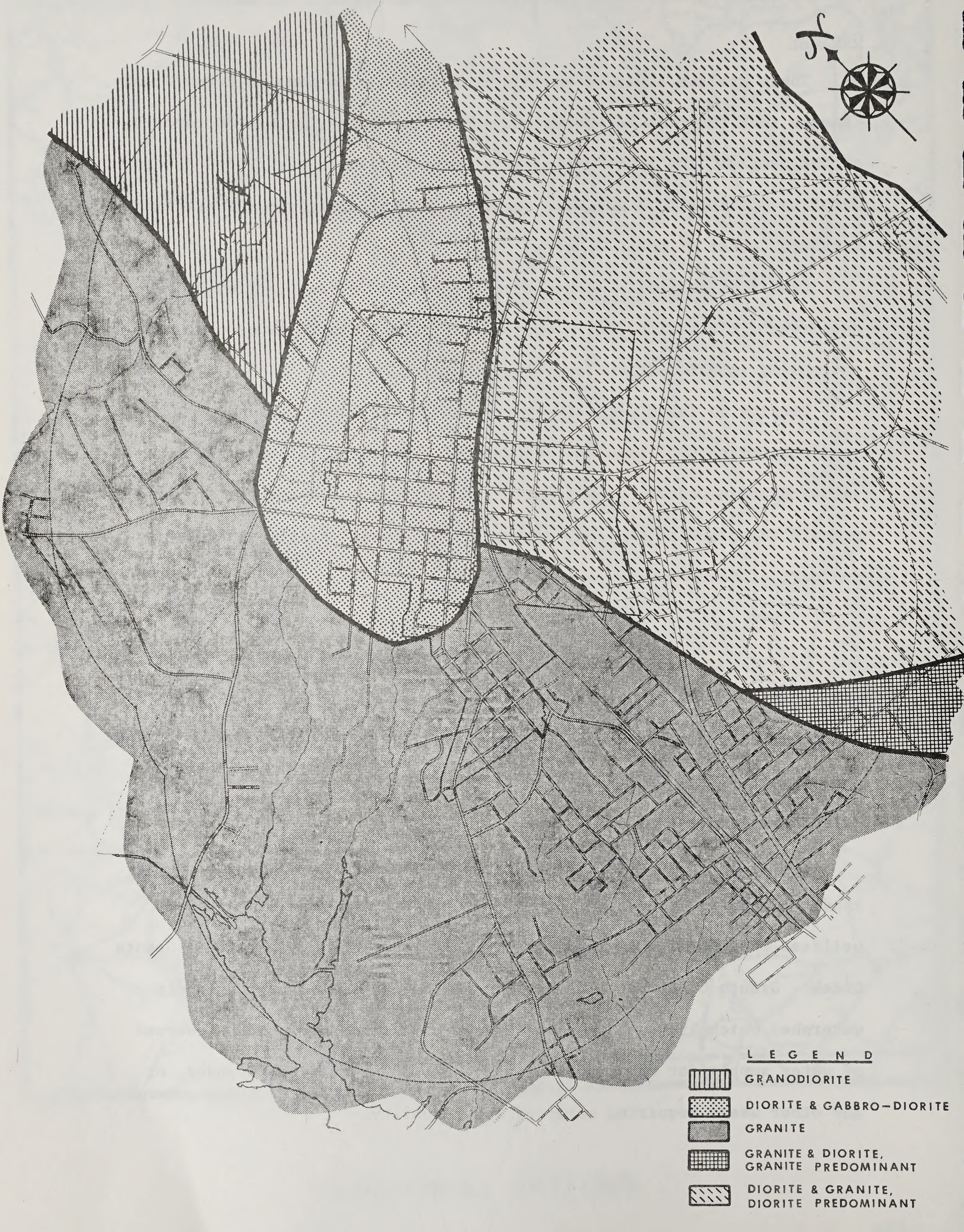
Drainage Basins and Watershed Areas

Landis lies within three drainage basins--the Grants Creek basin, the Cold Water drainage basin, and the Irish-Buffalo basin. These basins form a part of the Yadkin-Pee Dee River basin which flows into the Atlantic Ocean (see Map 3).

There are three watershed areas in Rowan County--Cannon Mill watershed, Concord watershed, and Landis watershed. The Town of Landis utilizes the Landis watershed, which is fed from the headwaters of Grants Creek. Grants Creek has a stream classification of A-1 at the Landis watershed which indicates the best usage of this water would be sources of water supply for drinking, culinary or food-processing purposes, or any other usage requiring water of lower quality.

GEOLOGICAL MAP

LANDIS, N.C.


LEGEND
GRANODIORITE
DIORITE & GABBRO-DIORITE
GRANITE
GRANITE & DIORITE, GRANITE PREDOMINANT
DIORITE & GRANITE, DIORITE PREDOMINANT

MAP-2

Climate

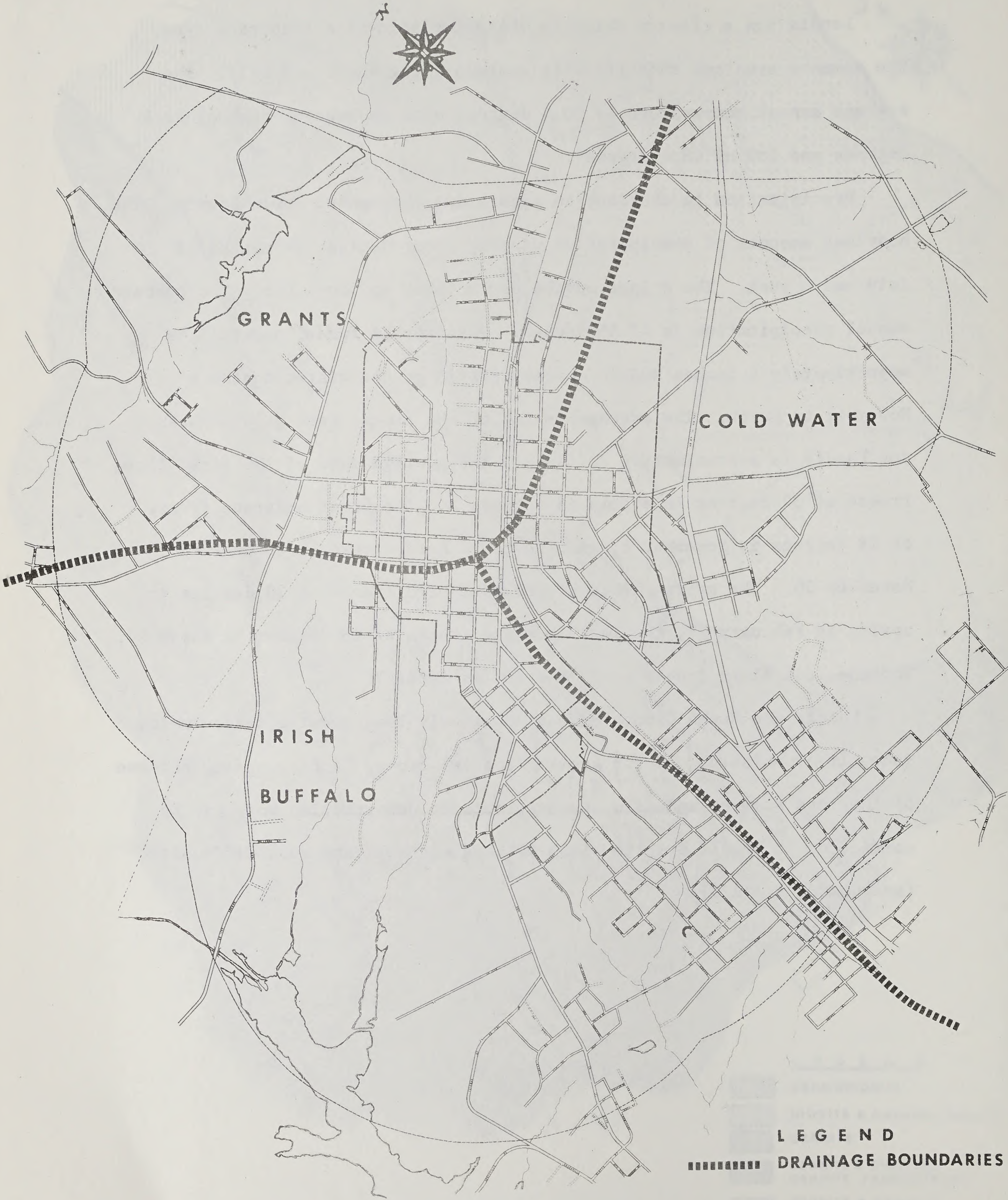
Landis has a climate which is characteristic of a temperate type. The summers are long and mild with winters being short and mild. The average annual temperature is 60.4 degrees with an average high of 72.4 degrees and low of 48.4 degrees.

Precipitation is abundant in Landis and throughout Rowan County. The heaviest amounts of precipitation usually occur during the months of July and August. The driest months are October and November. The average annual precipitation is 47.35 inches. The average annual snowfall is approximately 6 inches and is characteristic of the winter months of November to March. The average length of the freeze-free growing season for Landis is approximately 207 days. The average date of the first light freeze of 32 degrees in autumn is October 30, the first moderate freeze of 28 degrees is November 8, and the first hard freeze of 20 degrees is November 30. The average date of the last hard freeze of 20 degrees in spring is February 26, the last moderate freeze of 28 degrees is March 27, and the last light freeze of 32 degrees is April 7.

Landis and Rowan County have a relatively long growing season which makes it especially good for growing special crops. Additionally, because of the long summers and mild winters, outside construction work can be carried on in Landis and the planning area without very much difficulty. (see Charts A and B)

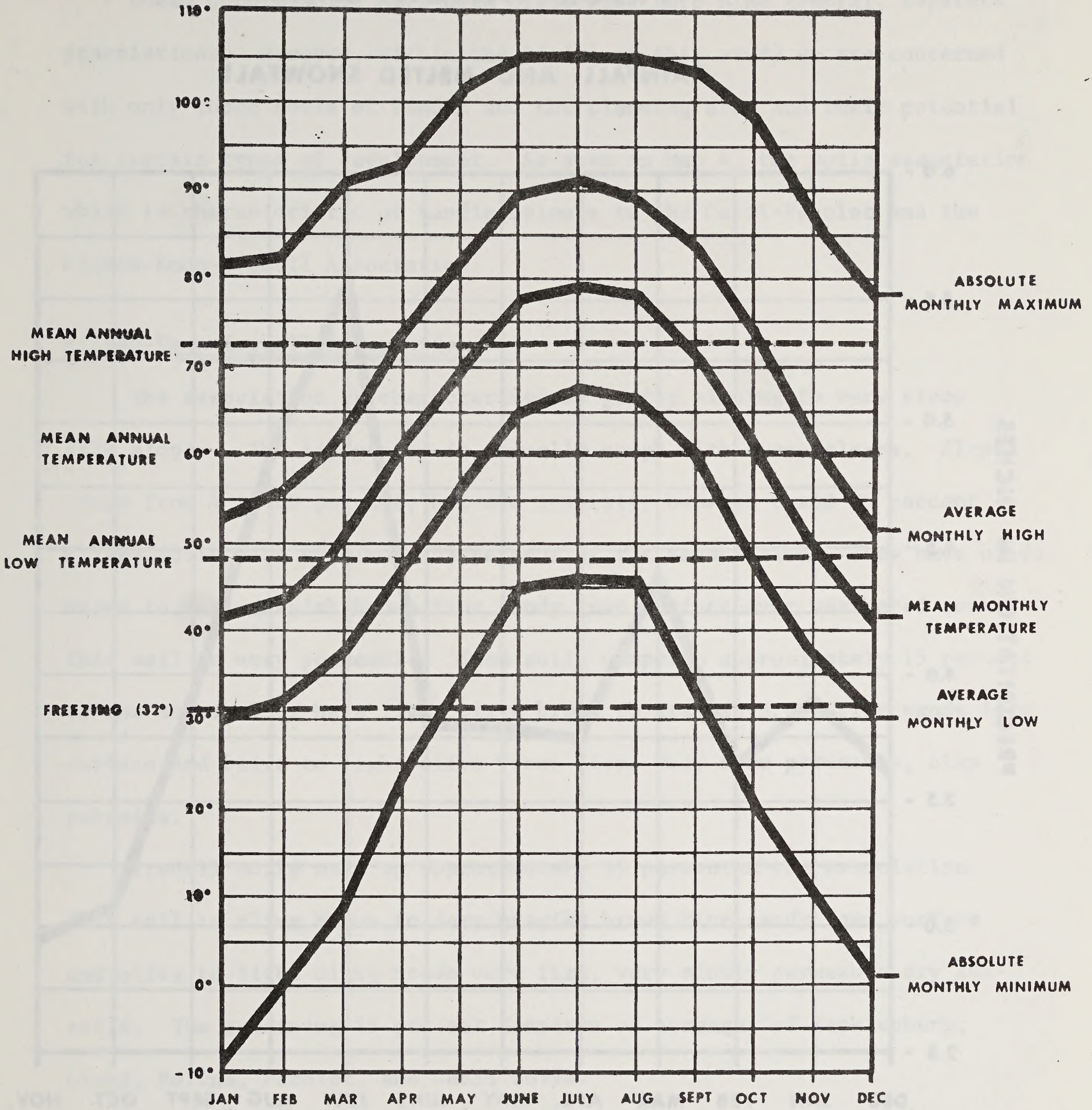
DRAINAGE BASINS

LANDIS, N.C.



LEGEND

▮▮▮▮▮▮▮▮ DRAINAGE BOUNDARIES



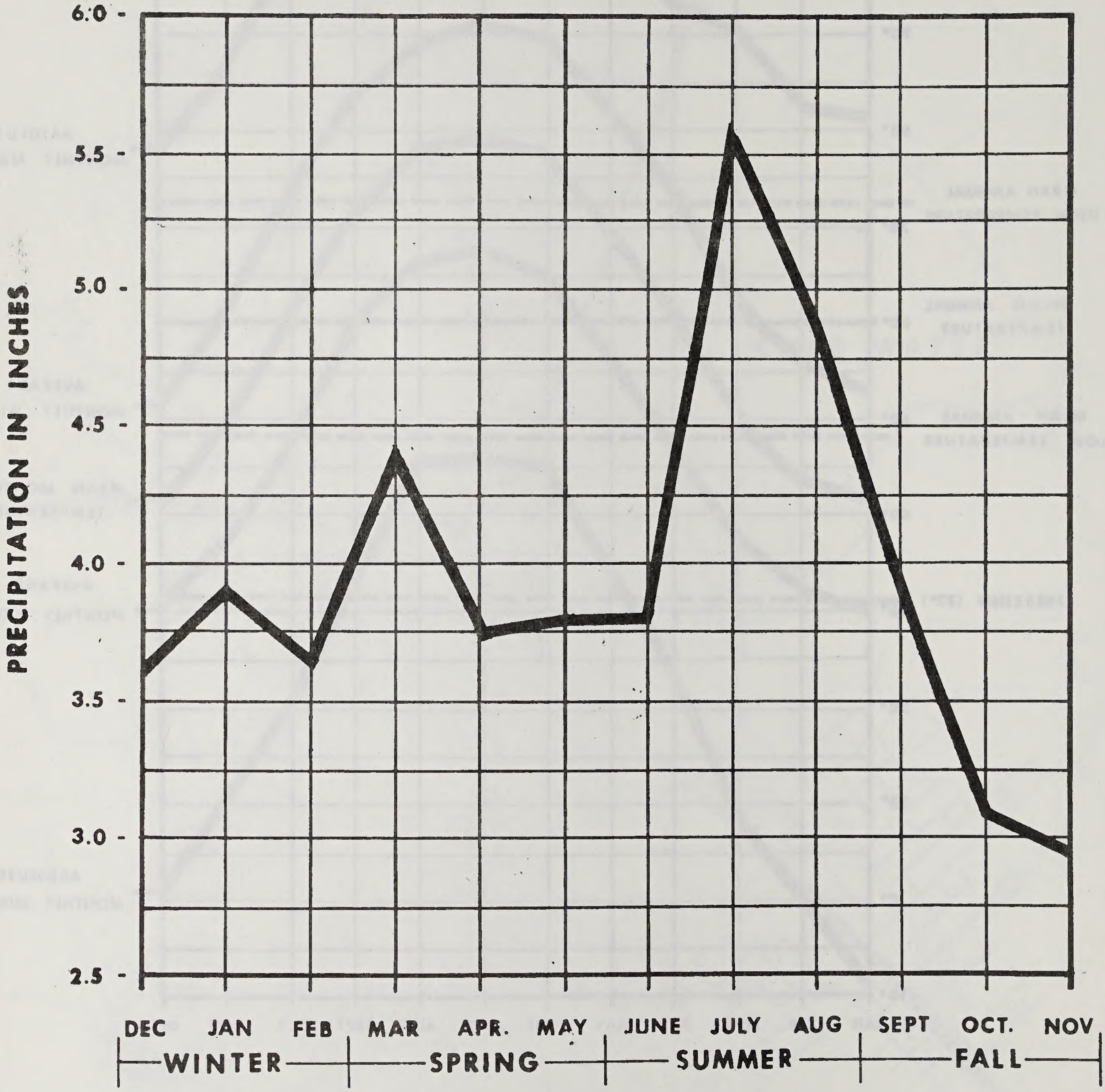
LANDIS, N.C.

TEMPERATURE CHART

1937 - 1966

LANDIS, N.C.
PRECIPITATION CHART

RAINFALL AND MELTED SNOWFALL



Soils

Rowan County soils have been classified into nine general, separate associations. However, within the limits of this study we are concerned with only those soils of Landis and the planning area and their potential for certain types of development. As seen on Map 4, the soils association which is characteristic of Landis belongs to the Cecil-Pacolet and the Wilkes-Enon-Iredell Association.

Wilkes-Enon-Iredell Association

The association is characterized by gently sloping to very steep side slopes. The topography is normally rough with steep slopes. Slopes range from 4 to 60 percent, but are generally between 6 and 35 percent. Wilkes soils make up almost 55 percent of the association. They have olive brown to dark grayish-brown fine sandy loam surface over weathered rock. This soil is very permeable. Enon soils comprise approximately 15 percent of the area. They have light olive brown to grayish-brown fine sandy loam surface and olive to light olive brown firm, very slow permeable, clay subsoils.

Iredell soils make up approximately 15 percent of the association. This soil is olive brown to dary grayish brown fine sandy loam surface and olive to light olive brown very firm, very slowly permeable dry subsoils. The remaining 15 percent consists of acreages of Mecklenburg, Lloyd, Helena, Pacolet, and Cecil soils.

Wilkes-Enon-Iredell soil association has severe limitations for septic fields, foundations, and road construction.

Cecil-Pacolet Association

Characteristic of this association is gently sloping to sloping well-drained soils with sandy loam surfaces over firm red clay subsoils. The topography is predominately smooth except for sparse broad ridges with broad side slopes. The slopes range from 2 to 30 percent, but are generally between 3 and 9 percent.

Cecil Soils - Cecil soils make up about 55 percent of the association. They are dark grayish-brown sandy loam surface over deep, firm, red clay subsoils and are moderately permeable.

Pacolet Soils - Pacolet soils occupy approximately 30 percent of this association. They are dary grayish-brown sandy loam surface over firm, red clay subsoils. This soil is moderately permeable.

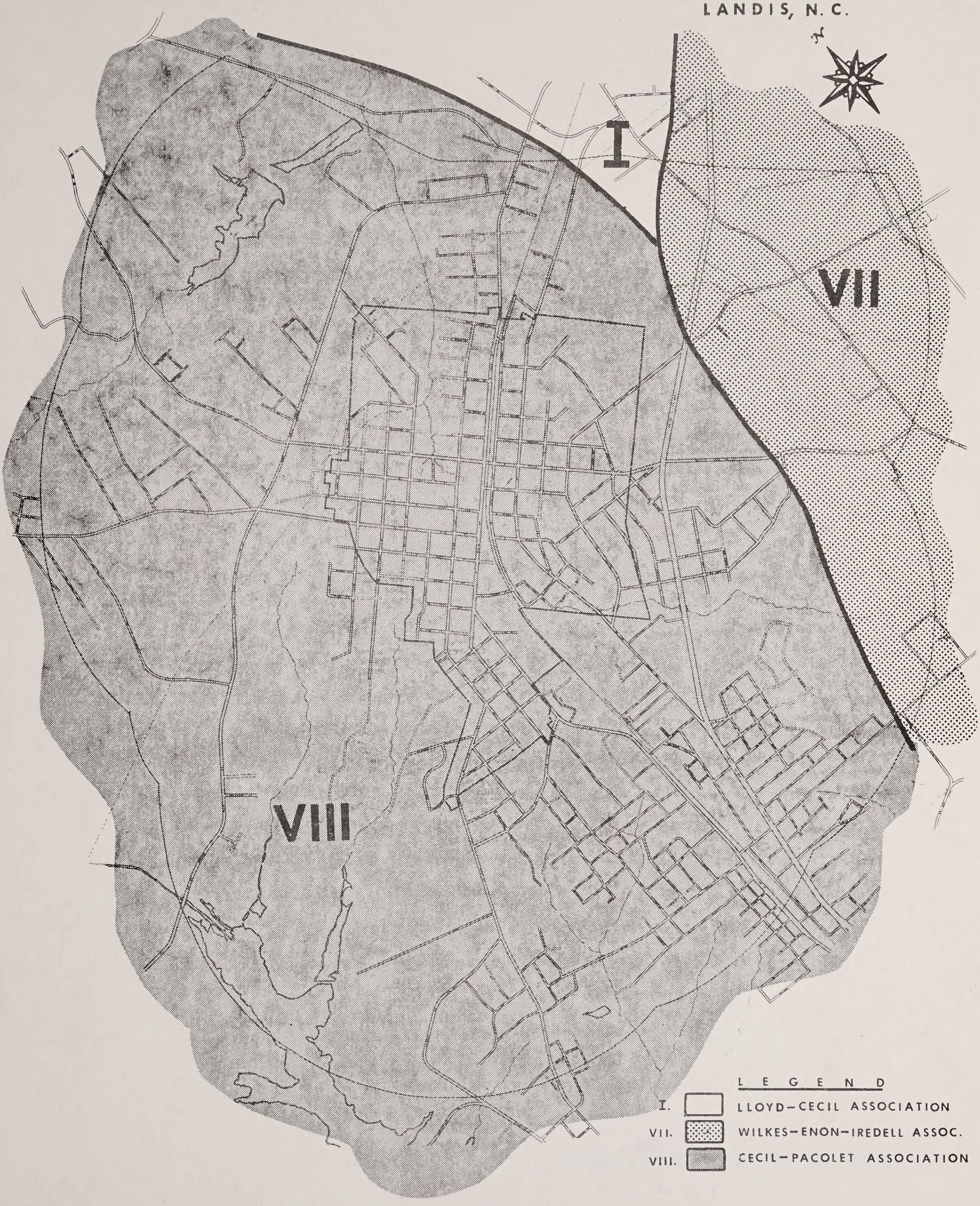
The remaining 15 percent of this association is made up of Appling, Wedowell, and Helena soils.

The major soils of this association have only moderate limitations for non-agricultural use, such as septic fields, foundations, and road construction.

Future development in Landis should be limited to areas which are compatible with the soils and slope. Residential development as well as commercial and industrial should develop only after soils and slope are found to be conducive for septic fields, roads, and industrial development. Map 4 will illustrate a rating for septic tank suitability, roads and industrial suitability, agriculture suitability and a general soils map of Landis as well as Rowan County.

SOIL MAP

LANDIS, N.C.


N
I
VII
VIII
LEGEND
I. LLOYD-CECIL ASSOCIATION
VII. WILKES-ENON-IREDELL ASSOC.
VIII. CECIL-PACOLET ASSOCIATION

GOALS, OBJECTIVES AND STANDARDS

CHAPTER III

GOALS, OBJECTIVES AND STANDARDS

Goals

The image of a town is reflected in the use of its land. The image may be favorable or unfavorable, depending upon the decision of the town's inhabitants, past and present. Each generation inherits the town with all its assets and liabilities, reshapes and redirects it, and passes it on to the next.

Therefore, with the development of this report and the assistance of planning tools such as the zoning ordinance and subdivision regulations for implementation, it is anticipated that cohesive and orderly growth will be accomplished in Landis. In order to do so, however, the following goals are defined:

(1) The promotion of the general welfare of the individual and the provision of a satisfactory living environment;

(2) The establishment of a land use pattern which provides for maximum opportunity and choice to meet the needs of the individual and society, while preventing its dangers of haphazard and uncontrolled growth;

(3) The achievement of a dynamic economy that provides adequate employment opportunities for all and sustains a rising standard of living for the population; and

(4) The organization of local government for the well-being of its citizenry and providing the necessary services and leadership to sustain the growth and spirit of the municipality.

Goals might be defined as the unattainable ideals towards which society strives, but they do not form a basis for immediate action.

Therefore, as goals are defined, objectives should be stated outlining broad courses of action to be followed, and standards should be developed to guide the preparation of major elements of the plan.

On the basis of these four goals, seven basic planning objectives have been formulated to help guide Landis' development. These objectives, coupled with established planning principles and standards, will help to determine the most desirable and suitable requirements and criteria to follow locally.

Objectives

Objectives identify in a general way what is hoped will be achieved through the process of planning for future development. The following is a list of community planning objectives which are general enough to permit flexibility, yet specific enough for the purpose of giving direction to the community's land use plan.

(1) Development of a compact urban area to prevent urban sprawl and fragmented residential areas;

(2) The integration of compatible land uses and the separation of incompatible uses in order to promote the most appropriate utilization of land;

(3) Provision of adequate water systems, sewerage systems, fire and police protection, refuse collection, so that the urban area can receive the highest level of municipal services with economy and efficiency;

(4) Development of pleasant and convenient residential neighborhoods containing the necessary amenities, services, and facilities protected from encroachment of incompatible land uses;

(5) Economic development through the provision of adequate space for industrial sites in proper locations with good accessibility, adequate utilities, room for expansion, and proper controls to allow protection from any detrimental effects of other land uses;

(6) Improvements of the community as a place for business by having properly located commercial areas, related to each other in a beneficial manner and served by necessary community facilities;

(7) An improved system of major streets and highways connecting the various land uses in such a way that both people and goods can be moved rapidly and efficiently throughout the urban area.

Standards

The Land Development Plan is intended to set forth a proposed land use pattern dimensioned according to anticipated future needs and designed to serve as a guide to future land development. Major land uses--residential, business, industrial, schools, and recreation facilities--have specific criteria and locational requirements which should be followed in order to achieve the most appropriate land use pattern for Landis and its planning area. The success of future community development relates directly to the community's ability to satisfy the following criteria and locational requirements.

Residential Land Use Development Standard - The location of residential areas is much more flexible than either that of industrial or commercial. In order to insure future residential development against blight, deterioration, the following location requirements should be used in planning for residential areas, where possible:

(1) Neighborhood Unit Concept - residential neighborhoods should be bounded but not penetrated by primary streets, and should be served by an elementary school, playground, small park, and a small shopping center convenient to all homes. The neighborhood should be served by a network of collector and minor streets fitted to the terrain with careful consideration given to drainage, sight distance, maintenance, economy, and emergency and service vehicle access;

(2) Where possible, vacant areas of existing development should be filled in before new development areas are begun;

(3) Areas subject to flooding and areas with steep topography, in excess of 20 percent slope, should be avoided and even possibly remain as open space;

(4) Residential areas should be well protected from incompatible land uses. Poor design which is not complimentary to existing design, industrial uses, as well as scattered commercial uses, can cause detrimental effects to the residential living area;

(5) Residential streets should be designed to discourage through traffic, but major thoroughfares should be easily accessible;

(6) Utilities should be available to residential areas before development occurs or they should be capable of being installed without excessive cost to either the homeowners, developer, or town;

(7) Development requiring municipal sewerage should be contained wherever possible within an area serviceable by gravity flow.

Commercial Land Use Development Standards - Commercial land use in a community the size of Landis can be broken down into two classifications: (1) central business district and (2) outlying commercial areas.

(1) Central business district: The central business district is the major center of retail, financial, administrative, and governmental activities in Landis. In order to insure orderly commercial growth in the future, these development standards need to be considered:

(a) Retail, office and service activities should be located in the central business area with well located parking areas and convenient access to both the major traffic arterials and other shopping areas.

(b) The retail core should be developed compactly and scaled to the needs of the pedestrian in order to maximize pedestrian movement and minimize vehicular circulation.

(c) The preservation and redevelopment of the central business district should be encouraged through the preparation and implementation of a plan that would include recommendations for remodeling and restoration of buildings, improvement of vehicular and pedestrian circulation, additional sufficient off-street parking, and development of historical sites of significance.

(d) Activities that do not require a central location or which are incompatible with emerging central area function should be encouraged to relocate in outlying areas.

(e) The amount of land planned for business development during the planning period should be scaled to the demand of the projected population.

(f) Areas established for business purposes should be adjacent to residential neighborhoods and not located within them.

(2) Outlying areas: Many commercial activities do not require a location in the central business district or in planned shopping centers. These activities tend to be located along arterial streets where considerable advertising advantages are gained by exposure to the traveling public and where access is convenient. These advantages have created strip commercial development along most major arterial streets and in many cases have seriously impaired their traffic carrying capacity. Failure to buffer adjoining residential areas has, in many cases, created wide bands of blight along areas bordering these arterials. To avoid duplicating problems which now exist, the following standards are suggested:

(a) While strip commercial development along arterial streets should be permitted where required by necessity or convenience, this type of development should be restricted to areas where commercial activities will not create blighted conditions in nearby residential neighborhoods.

(b) Adequate buffering should be provided between commercial and residential areas.

(c) Adequate off-street parking should be provided in such a manner that no parking can take place on public rights-of-way.

(d) Business developments should be approved only after sufficient development aspects of the proposed sites are analyzed and it is assured that street grades, intersections, access points, and rights-of-way are adequate.

(e) The support of commercial development proposals should be advocated by feasibility studies which identify the need for additional facilities, the potential purchasing power of the supporting area, and a justification of site location.

(f) There should be adequate control of access to and from commercial establishments so that the traffic carrying capacity of streets is protected.

Industrial Land Use Development Standards - Since World War II there has been a definite trend toward larger suburban sites for industrial plant location. This trend contrasts sharply with the pre-World War II period when most industries were located on small and cramped sites closer to the downtown area. The new type of industries that have emerged since World War II are interested in industrial sites with room for single story operations, major highway and/or railroad access, relatively inexpensive land, adequate room for parking and loading space, and room for expansion.

There are certain minimum requirements which should be met by an industrial site suitable for industrial operation. Some of the more important requirements include the following:

(1) Wholesale and industrial sites should be located near railroads and major thoroughfares on large parcels of land.

(2) An adequate water supply, sanitary sewerage, gas, and electricity should be made available to industrial sites.

(3) Location should be a consideration so as to minimize obnoxious external effects on neighboring non-industrial land uses.

(4) Industrial sites should be physically suitable with reasonably level topography but free from the dangers of flooding and foundation and drainage problems.

(5) Landscaping and beautification of all industrial locations should be encouraged.

(6) All new industries should be encouraged to located in a designated reserved industrial area.

(7) Industrial areas should contain large tracts of land in single ownership.

(8) The Land Use Plan should identify two types of industrial land use--light industry and heavy industry:

   (a) Light Industry - This category should include those industries, or other activities of an industrial nature, such as warehousing and distribution, which produce little or no adverse environmental affects and which are compatible with residential areas. Such industries which are contained within attractive buildings in landscaped surroundings could be located in prestige locations along major highways or in planned industrial parks or used as a buffer between established heavier industrial uses and residential areas.

   (b) Heavy Industry - This group includes those manufacturing or industrial service activities which create adverse environmental effects beyond the property on which they are located due to noise, odor, smoke, vibration, glare, or dust, or which causes a potential hazard. Land reserved for such industrial uses should be remote from residential areas.

Space Requirements -

(1) Total gross land requirement for all industry is 12 acres per 1,000 population.

(2) Heavy industrial land development would require 10 acres per 1,000 population.

(3) Light industrial land development would require 2 acres per 1,000 population.

(4) The land requirements for pre-planned industrial complexes (industrial parks) are:

Minimum	320 acres
Ideal	640 acres

(5) Ample land for industrial use should be reserved for a minimum of 50 years future growth.(1)

Public and Semi-Public Land Use Development Standards - The availability and adequacy of the public and semi-public services are important factors of the quality of the urban environment. Before urban development can occur, water and electric power must be available and sewerage, gas, and telephone service should be present. In addition, with the presence of urban population, there is a need for urban services, such as police and fire protection, garbage collection, traffic control, street maintenance, school and recreation areas. The need for these services becomes more intense as the size and density of the population increases. Furnishing such services and utilities is closely related to population and development trends. Specific site selection will require more detailed criteria. The primary concern with public and semi-public land use in Landis and the planning area will focus on governmental uses such as town hall,

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[1] George Hez, Urban Land, May, 1961, Chapter XX, No. 5, "Standards for New Urban Development - The Denver Background," p. 5.

court officers, education, religious and social recreational agencies. Outlined below are standards which are broadly based guides established to aid the Town of Landis in development of public and semi-public services:

(1) Community serving public and semi-public facilities should be located near major streets in order to better serve the community.

(2) Public and semi-public buildings should be conveniently located and be readily accessible to the people they serve.

(3) Public and semi-public buildings and sites should be reviewed and approved by the Landis Planning Board.

(4) Recreation centers and play areas should be located in the center of the area with which they are associated.

(5) Both active and passive recreation areas should be developed in order to provide facilities for the leisure time activities of all age groups.

(6) Whenever possible, recreation and school areas should be developed on adjacent sites in order to obtain an integrated and complementary program.

(7) Schools should be located in accordance with the following national standards. The National Commission on school district reorganization of the National Education Association and the and the American Public Health Association recommends schools in which:

(a) Grades 1 - 6:

Enrollment: 175 - 300 students

Service Area: 1/4 - 1/2 mile radius in high density areas;
1 mile in low density areas

Location: should be central to the service area. Access should be by secondary street, avoiding major thoroughfares, railroads, and proximity to commercial and residential areas

Land area: 5 acres plus 1 acre for each 100 pupils

(b) Secondary schools should be conveniently within the service area and adjacent to a network of adequate streets.

Junior High Schools:

Enrollment: 700 to 1,500 students

Service area: 3/4 - 1 mile radius in high density areas; 1½ miles in low density areas

Land area: 10 acres minimum

Senior High Schools:

Enrollment: 1,000 to 2,000 students

Service area: not specifically defined. The area to be served is dependent upon student population with students traveling greater distances than elementary or junior high school pupils. For this reason the school should be located on a major thoroughfare and public transportation system. The American Public Health Association recommends 30 minutes as the maximum one-way travel time by conveyance.

Land area: 10 acres plus 1 acre per 100 students

Other public and semi-public uses such as stores, town hall, court offices, libraries, police and fire stations, religious uses are all largely nonrepetitive and should be handled on a case basis.

Historical Land Use Development Goals and Objectives

The Town of Landis has recently appointed a Community Appreciation and Historic Preservation Committee to carry out a historic study for Landis. This study will identify all structures and objects significant to Rowan County and local history, architecture, archaeology, and culture regardless of ownership. This study will also set forth both goals and objectives which will be beneficial in development of historic sites.

The purpose and goals of historic preservation are:

1. Safeguard the heritage of the community by preserving areas and sites which reflect elements of the cultural, social, economic and architectural history of Landis and the county of Rowan.
2. Stabilize and improve property values within the town and county.
3. Foster civic beauty.
4. Strengthen the local economy.
5. Promote the use and preservation of historic sites for the education, welfare and pleasure of residents of Landis, Rowan County and the state as a whole.
6. Provide for land use activities that will be in character with the nature of any possible future historic district.

Briefly, here are some basic objects of historic preservation in Landis and the outlying area:

1. A comprehensive plan for historic development should be prepared.
2. The town should preserve and restore with assistance of local, state, and federal agencies and groups as many of the historical sites and structures as possible.
3. The town should encourage private restoration of structures of historical character.
4. The town should adopt and strictly enforce appropriate historical zoning controls which are recommended in the Historical Survey.

Historic areas or sites are a part of the total Land Development Plan. It was suggested in the Historical Survey of Landis and Surrounding Areas that any new development which is going to affect these sites or structures should be referred to the Historic Commission for review and comment. The powers granted by North Carolina legislation are strictly review and recommendation. However, adopting this process is what assures the citizens and commission a voice in decisions which affect Landis' heritage.

EXISTING LAND USE DEVELOPMENT PATTERNS FOR LANDIS AND THE PLANNING AREA

CHAPTER IV

EXISTING LAND USE DEVELOPMENT PATTERNS FOR LANDIS AND THE PLANNING AREA

Land use or land development are terms used interchangeably to describe the generalized functional character of land. The function of developed land places it in one of the broad categories of residential, commercial, industrial, semi-public, public or transportation. Often these land uses combine to form urban areas which ultimately becomes a part of or derive services from an incorporated town or city. The character of a town and the quality of services it can provide are often determined by the arrangement of land uses.

Some pattern of land use is formed whenever land is developed. Private enterprise produces most land development and therefore is primarily responsible for reshaping the basic land use pattern. This pattern can be beneficial or detrimental to the community. Each parcel is affected by the use or potential use of other parcels. A consistent and orderly pattern of growth contributes substantially to stability. Conversely, undisciplined, chaotic growth results in incomplete development, neglected maintenance, early deterioration, and obsolescence.

Planning for growth begins with planning for the proper use of land. This requires a thorough knowledge of both problems and opportunities. Existing land use is a record of past policy and accomplishments. It is the base upon which a future development must be built.

In order to produce basic data necessary for future planning, a survey of existing land use is required. Analysis of the resulting data will assist in determining strengths and weaknesses of the land use pattern and provide a base for reevaluating the development objectives. Patterns of existing land use and development trends within a community must be determined before the Future Land Development Plan can be formulated. This is necessary to get a general overview of what types of land use tend to dominate certain areas within a community in order to determine what an orderly growth pattern will be.

A field survey of Landis and the one mile extraterritorial area was made in December, 1970, using Rowan County tax maps for the planning area as the base map. After the necessary information had been gathered from the field notes that had been placed on the tax maps, the staff of the Rowan Municipal and County Planning Board classified the parcels of land according to major land use categories using the system described below. Map 5 reveals the results of the Land Use Survey.

Residential - all dwelling units or places of residence of individuals, families, or households including the following subclassifications:

(a) Single Family - one family detached structure

(b) Multi-Family - a structure or structures in which two or more families or individuals reside, including duplexes, apartment buildings, rooming houses, and group housing.

(c) Trailer - a mobile home, modular or other non-conventionally constructed dwelling unit.

Commercial - establishments supplying commodities or services to the general public, including the following subclassifications:

(a) Retail - primary and secondary retail facilities, convenience retail, consumer services, repair and professional services including offices.

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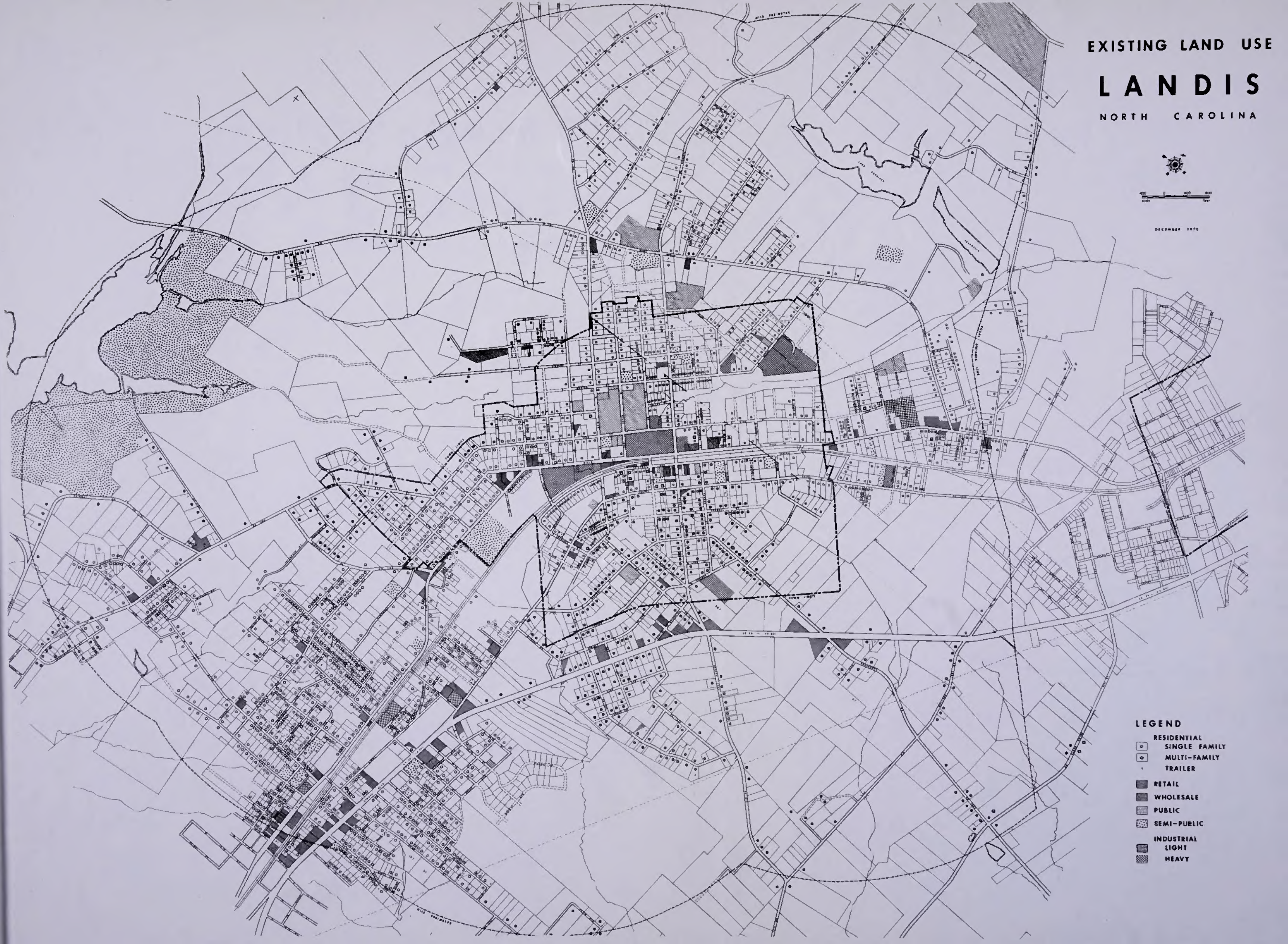
EXISTING LAND USE

LANDIS

NORTH CAROLINA



(b) Wholesale - establishments selling commodities in large quantities primarily to retailers.

Public - establishments and land used and supported by the inhabitants of a governmental unit including schools, municipal offices and facilities, parks and playgrounds.

Semi-Public - establishments and land utilized for public purposes but not necessarily open to the general public including churches, private schools, lodges, fraternal organizations and institutions.

Industrial - establishments and land engaged in the manufacture, processing, production or storage of commodities in bulk, including:

(a) Light industrial - manufacturing processing, or storage which does not create excessive noise, fumes, odors, or dust, which would be detrimental to neighboring uses. Textile manufacturing and processing, machine shops, construction equipment storage yards and trucking terminals are included in this category.

(b) Heavy industrial - includes such uses as automobile wrecking yards, bulk storage or processing of volatile or dangerous materials, meat packing plants and similar enterprises.

Transportation - land used as the right-of-way for streets, highways, railroads, airports and terminals.

Vacant - unimproved land and land used for agricultural purposes.

After the land use was classified, an existing land use map was prepared illustrating the various land use within the town. The following is a brief discussion of the existing land uses and recent development patterns within the town and surrounding planning area which is discussed in more detail in the Landis Land Use Analysis, 1973.

Residential Land Use

Land area devoted to residential use represents the largest single use of developed land, approximately 1,113.6 acres or 52.8 percent of the total developed land in Landis and the one mile perimeter.

There are approximately 319.70 acres of residential land (58.2% of developed land) within the corporate limits and approximately 793.88 acres (50.9% of developed land) in the remainder of the unincorporated planning area.

Current residential development patterns indicate that single family residences are for the most part following the past trends. That is, a filling-in process within the older established neighborhoods in Landis is occurring. Scattered residential development is currently taking place in the outlying rural areas.

Mobile homes are located in several locations around Landis. Presently, there is only one mobile home park, which lies within the western section of Landis and the planning area. Other mobile homes are spread sporadically throughout the town, particularly in the south, southeastern sections of Landis.

Landis at present does not have any public housing projects. However, there have been proposals to locate two such projects within the one mile perimeter of Landis.

Commercial

Commercial land development occupies approximately 9.9 acres or 1.8% of the developed land within the Landis corporate limits. This area consists of commercial establishments within the central business district, strip commercial, and a few "pocket" commercial areas throughout the town.

The dominant commercial area in Landis is the central business district along Main Street and Central Avenue which runs parallel with Southern Railway's main line through Landis. As is the case with residential development, commercial development has followed basically the same trend over the last decade. In addition to the commercial area within the central business district, other commercial concentrations include the area within the one mile perimeter which lies south along Cannon Boulevard and U. S. 29A.

Much retail business, however, is drawn away from Landis by the availability of either the Salisbury or the Concord-Kannapolis shopping centers which are only 15 minutes driving time from Landis.

Industrial

Industrial acreage consumes about 33.8 acres or 6.2 percent of developed land inside the corporate limits. Landis is the home of two major textile industries which provide employment for many of the citizens living in Landis and the planning area. The largest of these light industries is located near the center of town on the west side of the railroad in two dual block clusters which are separated by consumer service uses on South Main Street, from West Ryder Street on the north to East Round Street on the south. The other site is located in the northwest quadrant of town east of North Meriah Street backed by Grants Creek and another between the eastern town limits and North Upright Street.

Public and Semi-Public

Public and semi-public land use occupies approximately 37.5 acres or 6.8% of the developed land within the corporate limits. By far the largest of the public use categories are Landis Elementary at Zion Street and West Ryder Avenue, Corriher-Lipe Junior High School located at Zion Street and West Rice Street, and Aggrey Memorial at Tuskaseegee Road and West Ryder Avenue. Other public land uses include municipal offices, U. S. Post Office, municipal park, and the fireman's park. The majority of semi-public land is consumed by churches and the American Legion building which are used as community meeting centers.

Transportation

Transportation land uses include not only roads but railroad facilities as well. There are approximately 148.5 acres or 27.0% of land used for transportation purposes within the corporate limits of Landis. Roads consume about 135.8 acres or 24.7% and railroads use approximately 12.7 acres or 2.3% of the total 27.0%. From the available data published in a preliminary Origin and Destination Study in 1970 by the Advanced Planning Division of the State Department of Transportation, it appears the Landis transportation system is functionally adequate to meet the demands of the public.

Vacant Land Use

Land in this category is of non-urban character. Within the Town of Landis approximately 234.5 acres, or 27.9% of the total area, are undeveloped. Some of this area takes the form of scattered vacant lots though there are several large undeveloped tracts in the town.

In the one mile perimeter there are approximately 3,123.2 acres, or 66.7% of the total land, which are vacant. Since this supply is more than adequate to meet the demands of future growth, the main concern is centered around which areas are best suited for residential, commercial, industrial, and other public land uses. Tables I and II provide an analysis of land use characteristics for Landis and the one mile perimeter.

TABLE I

1970
EXISTING LAND USE FOR LANDIS
INSIDE CORPORATE LIMITS

Category	Acres	Percent of Total	Percent of Developed Land
Residential	319.70	40.7%	58.2%
Commercial	9.92	1.3%	1.8%
Public/Semi-Public	37.54	4.8%	6.8%
Industrial	33.83	4.3%	6.2%
Transportation	148.54	18.9%	27.0%
Roads	135.87	17.3%	24.7%
Railroads	12.67	1.6%	2.3%
Total Developed Land	549.53	70.1%	
Total Vacant Land	234.51	29.9%	
TOTAL ACREAGE	784.04		

Source: Landis Land Use Analysis, 1973, Rowan Regional Planning Board

TABLE II

1970
EXISTING LAND USE FOR LANDIS
OUTLYING AREA

Category	Acres	Percent of Total	Percent of Developed Land
Residential	793.88	17.0%	50.9%
Commercial	78.46	1.7%	5.0%
Public/Semi-Public	316.32	6.7%	20.3%
Industrial	12.23	0.3%	0.8%
Transportation	358.45	7.7%	22.9%
Roads	334.80	7.2%	21.4%
Railroads	23.65	0.5%	1.5%
Total Developed Land	1,559.34	33.3%	
Total Vacant Land	3,123.18	66.7%	
TOTAL ACREAGE	4,682.52		

Source: Landis Land Use Analysis, 1973, Rowan Regional Planning Board

HOUSING CONDITIONS

CHAPTER V

HOUSING CONDITIONS

The attraction of a community, whether it be for a family seeking a home or an industry seeking a site, depends in large upon the image conveyed by the community. The residential environment, the school system, the level of community services, and its public attitudes play a significant role in formulating that image.

During a housing conditions survey conducted in Landis and throughout the planning area in 1971, residential structures were evaluated on the basis of exterior appearance and grouped into two classifications. The two classifications are standard and substandard. Standard housing included those houses which are defined by the U. S. Bureau of the Census as being sound. Substandard houses consisted of housing in Landis and the Landis planning area that were deteriorating or dilapidated.

Sound - housing units in this category were those which visually needed no repair, only routine maintenance and normal upkeep. Generally, roof lines are straight and surface wear is not considered a problem.

Deteriorated - the group of houses including structures that are revealing definite signs of deterioration and will require rehabilitation to upgrade them to acceptable standards. These structures may have poor roofs, poor foundations, and/or flaking paint.

Dilapidated - the condition of structures in this category is considered not to be economically feasible to repair unless a major expenditure of funds is used. Generally, removal of the structure is recommended for health, fire, and other safety reasons, not only for the individual concerned, but also for the general welfare of the entire community.

The survey of housing conditions conducted within Landis and the planning area found that within the Landis corporate limits there were 815 occupied housing units, with a ratio of persons per dwelling unit being only 2.8, whereas in 1960 the ratio was 3.17. This decline figure reinforces the conclusion (that the average age in Landis is increasing) drawn from the population age spread information.

The appearance of the housing in Landis is generally very good. The survey indicated only five dwelling units which were in need of major repair or in dilapidated condition. These units were scattered and occurred in neighborhoods where lot sizes were generally smaller and in which the majority of homes were of wood frame construction.

The planning area outside the corporate limits accommodated 1,513 dwelling units and had a person per dwelling unit ratio of 2.88. Sixty-one dwelling units, around 4% of the total, in this area were identified as being dilapidated beyond the scope of economic repair. The seriously blighted neighborhoods are well defined; however, a few substandard dwelling units are scattered elsewhere throughout the extraterritorial planning area.

Census Information

The 1970 U. S. Census of Housing for North Carolina contained information concerning the number of housing units lacking one or more plumbing facilities and overcrowded housing units. Using these measures of housing quality, it was found that there are 25 dwelling units in Landis lacking one or more plumbing facilities. The census standard for an overcrowded dwelling unit is one having one or more persons per room. Applying this measure, it was found that Landis had 51 overcrowded housing units.

Future Housing Needs

It is estimated that the current population of Landis is 2,297 and the present housing stock is 815 units. Therefore, the approximate housing density per dwelling unit is 2.8 individuals.

To provide for the anticipated population of 2,474 by 1990, 884 dwelling units will be needed which is an increase of 69 dwelling units over the present housing stock in order to maintain the present density of 2.8 persons per dwelling unit.

LAND DEVELOPMENT PLAN

CHAPTER VI

LAND DEVELOPMENT PLAN

Population growth for the Landis planning area over the planning period will be a relatively slow but steady process. There were an estimated 20,530 people within the Landis planning area in 1970. By 1990 the area will contain approximately 23,066 persons. Such an increase suggests the need for additional houses, more educational and recreational facilities, additional streets, more commercial area, expanded water and sewer services, increased garbage collection, and expanded police and fire protection. Table III reflects the growth of the Landis planning area as well as the Town of Landis. It also shows the population projection based on the study Social, Economic and Housing Characteristics for Rowan County, 1973.

TABLE III PROJECTED POPULATION FOR LANDIS AND THE LANDIS PLANNING AREA

Planning District	1970 Estimate	1980 Projection	1990 Projection
Town of Landis	2,297	2,349	2,474
Planning Area*	20,530	21,787	23,066

*includes China Grove, North Kannapolis and Landis

It is the purpose of this development plan to provide the framework for the future growth of Landis and its planning area. As such, the plan will be a decision-making tool for public officials and private developers as well as a guide for future program development and implementation. The plan is based upon the physical conditions, surveys, and projections.

The future land use map is a part of the total development plan. It is essentially a guide for the physical development of the area. The interrelationship of social, economic, and physical development are not easy to detail in such a document as this. However, the fact that they cannot be graphically displayed does not diminish their importance.

Land Use Goals

Land use planning goals must relate to the needs and must derive from the basic opportunities of the community. They provide the meaning behind the development plan. In broad terms, the planning goals for Landis are to recognize that an urban population requires a relatively definable amount of land related to its size and way of life and to provide such land in a convenient way and in a harmonious arrangement. This general goal may be expressed more specifically by the reiteration of the goals set forth in Chapter Three. In general, those goals are concerned with:

(1) a desirable environment in which to live and work

(2) residences convenient to business and public services for future industrial development

(3) adequate areas reserved for future industrial development

(4) recreational areas for all ages

(5) the planned expansion of commercial areas

(6) the highest level of public services provided with the minimum possible expenditure of tax dollars.

Factors Affecting Development

Preparation of the future land development plan was guided by the goals, objectives and standards stated earlier in the plan. On the basis of these goals, objectives and standards, significant factors were identified which affect the location and type of land uses. The proposed arrangement of land uses was influenced by many factors; however, the most important of these are:

(1) existing land uses and land use regulations
(2) topography and subsoil conditions
(3) quality, continuity, and harmony of existing development
(4) location of thoroughfares, railroads, and available access to the interstate highway system
(5) employment and commercial centers
(6) location, size, and type of development within the central business district
(7) trends in land development
(8) deficiencies in the present land use patterns
(9) number and probable characteristics of future population
(10) location and type of other traffic generators or centers of population interest.

[illegible]

(2) Residential development to increase and [illegible]

between [illegible] development

(3) adequate areas reserved for future commercial development

(4) recreational areas for all ages

(5) the planned expansion of commercial areas

(6) the highest level of public services provided with the minimum possible expenditure of tax dollars.

Preferred Land Use Development

Preparation of the Preferred Land Development plan was guided by the goals, objectives and policies stated earlier in the plan.² On the basis

FUTURE LAND DEVELOPMENT PLAN

CHAPTER VII

FUTURE LAND DEVELOPMENT PLAN

As the Town of Landis increases in population, new areas for development will have to be considered. Landis is a composite of many land uses interrelated to form a functioning entity serving the needs of the resident population. Optimum economy, efficiency, and convenience depend upon an adequate amount of land and the proper location and relationship of diversified land uses. These characteristics are the ingredients of a working and developing structure. If proper guidelines and controls are maintained, the community should experience an orderly and attractive growth pattern.

The pattern and amount of land designated for each land use has been determined by several factors, most of which have been stated previously in factors affecting development. The Land Development Plan for Landis should serve as a guide by which the town planning board and town officials of Landis can make decisions concerning the future growth of their town. Landis' proposed Future Land Development Plan is illustrated by Map 6. Future land use requirements are presented in Table IV.

Principles of Development - Residential

Environment, compatability, protection of investment, and stability all serve as a strong basis in determining residential recommendations. Additionally, each residential area should be served by an adequate transportation system of collector streets which intersect with major arterials providing good access to the rest of the community.

FUTURE LAND USE NEEDS FOR LANDIS

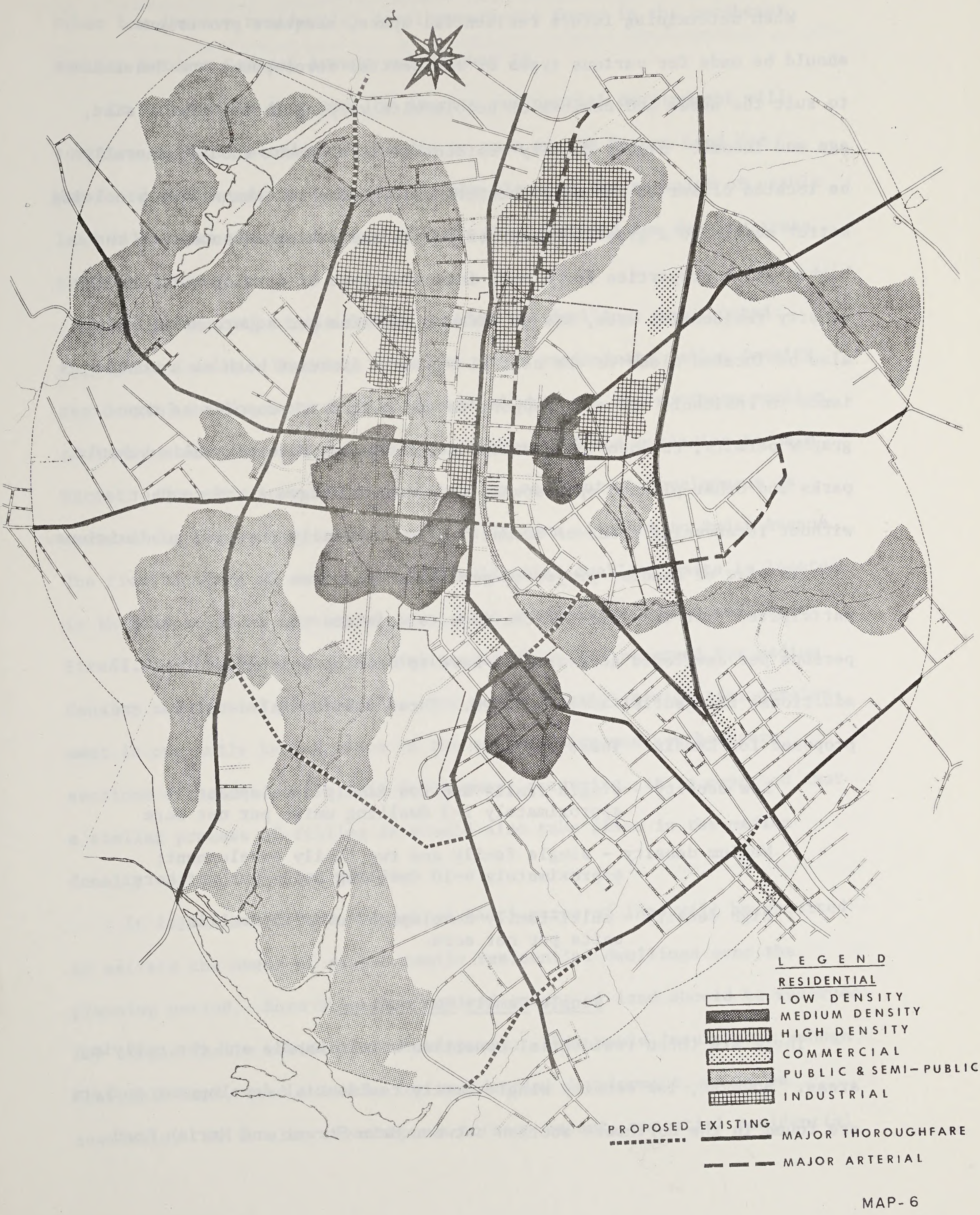
1980 to 1990

TABLE IV (in acres)

	1970	1980	1990
Residential	319.70	7.36	24.77
Commercial	9.92	0.19	1.23
Public/Semi-Public	37.54	0.67	2.70
Industrial	33.83	1.01	2.86
Transportation	148.54	3.69	11.26
Road	135.87	2.93	10.32
Railroad	12.67	0.26	0.94
Total Developed Land	549.53	565.64	619.72
Total Vacant Land	234.51	218.40	164.32
TOTAL ACREAGE	784.04	784.04	784.04

LAND DEVELOPMENT PLAN

LANDIS, N.C.



MAP-6

When determining future residential space, adequate provisions should be made for various types of residential development and densities to suit the needs and desires of people with varying taste, family size, age and income. Higher density residential development should generally be located closer to the major centers of activity in communities providing better access to a greater number of people and taking advantage of the higher value properties for a more intensive type of development. Medium density residential uses, six to fifteen families per square acre, should also be located close to the central business district both as a convenience to residents and as a support to the district. Insofar as topography permits, residential development, including related public schools, parks and other planned open space, should be contiguous and compact without intervening areas of vacant land or partially occupied subdivisions.

In view of Landis' projected population increase by 1990, it is anticipated that in order for the town to maintain the existing 4.18 persons per developed acre it will have to develop approximately 24.77 additional residential acres by 1990. Three residential densities are proposed for Landis. These include:

Low density - single family and two family development; approximately 1-3 dwelling units per net acre

Medium density - single family and two family development; approximately 4-10 dwelling units per net acre

High density - multi-family development over 10 dwelling units per net acre.

Single Family Residential

There are three residential densities within Landis and the outlying areas. However, low density single family residential development pockets are found in the northwest section between Main Street and Meriah Road.

Other low density residential developments are found in the northeast section between Central Avenue and Highway 29.

It is expected that the low density residential development will continue in those sections of Landis as seen in the Future Land Use Map 6. A filling-in process should take place as the scarcity of usable land will cause the vacant land between the developed low density areas to be utilized.

Medium density single family residential dwellings are located throughout Landis. However, there are three predominate medium density residential developments in Landis, one of which is the southern portion of town between South Zion Street and Highway 29A and extending to Main Street. The second area of medium density residential development is centered in the western-central portion of town adjacent to Ryder Avenue. The final section of medium density residential dwelling units is located in the east-central section of town, also along Ryder Avenue and Beaver Street. Map 6 illustrates the delineated districts reserved for medium density residential development. New medium density residential development is currently taking place in the southwestern and southeastern sections of Landis. With this development occurring, it is expected that a similar process of filling in should also take place in the medium density residential development.

It is estimated that a total of 344.5 acres of land will be required to satisfy the needs of single family residential dwellings over the planning period. More than the required amount of land should be reserved for single family residential development. This would insure that enough desirable land, land suitable for residential development, would be available. It is also advantageous to keep vacant, potential residential land in the highest land use classification to prevent the blighting effects of some lower classification.

High Density Multi-Family Residential

High density multi-family residential is primarily concentrated adjacent to the central business district along South Central Avenue, East Ridge Avenue and East Mill Street. The existing multi-family dwelling units within the Landis central business district area are classified as high density. It is anticipated that future expansion of multi-family dwelling will be located near the present site as more of the single family units become available for conversion. In view of the age structure of Landis, future multi-family medium density development should be encouraged for reasons stated previously:

(1) convenience to residents

(2) support for the central shopping area

(3) limited concentration of apartments

(4) accessible to Highway 29A and Main Street

Higher density residential development should, as previously stated, be located close to the major centers of activity in communities providing better access to a greater number of people and taking advantage of the higher value properties for a more intensive type of development. In applying our current planning principles of development densities, we can see that Landis was created by the mills and that the mills were and are now the center of activity. The Town of Landis has an abundance of undeveloped land that could be used for high and medium density multi-family residential purposes. Future high density development should be limited to the central business district area and the areas surrounding the existing mills. These are the two areas of activity in town and future high densities should not be developed beyond these existing areas.

Mobile Homes

There is presently a large concentration of mobile homes located on Ryder Avenue between Highway 29 Bypass and Upright Street. This is the only mobile home park in Landis. There are several individual mobile homes spread sporadically throughout Landis. However, for the most part they are centrally located within the existing mobile home park. No estimate can be made as to how much will be needed in the future. It is suggested, however, that with the rising cost of houses, more and more people will be turning to mobile homes for their dwelling units. With this in mind, future consideration should be given to areas suitable for mobile home park locations.

Principles of Development - Commercial Use

The plan should reflect methods to strengthen the central business district, to determine the needs and general locations of other types of commercial centers, and to discourage strip and scattered spot commercial development and the infiltration of commercial activities into areas of other uses.

Commercial areas should be located on the basis of need. If the population of an area is, or will be, within the planning period, large enough to support shopping center facilities, then such facilities adequate to serve that function should be planned for and provided.

Commercial areas should be planned as an integral part of the community's development so that adequate consideration should be given to their location relative to thoroughfares adequate to handle anticipated volumes of traffic and the nearness of other shopping areas and the possible consequences of both. Locations should also be planned to be served with needed public services such as police and fire protection, garbage, refuse collection, and adequate utility services.

Central Business District

In the future land use plan the central business district has been expanded to include approximately 1.23 acres by 1990. Landis' central business district's expansion is restricted to the west because of the railroad track, Highway 29A, and the mill. Residential restriction limits expansion to the north of town and to the south. However, the central business district is expected to expand primarily to the east of its present location.

Landis has many citizen and interest groups that have expressed a concern with community appearance and beautification. Currently the Landis Community Appreciation and Historic Preservation committee is working on a community appearance survey to be completed by June, 1974. The results of this survey will identify sites which might merit attention and also make some recommendations and guidelines as to what could be done in order to maintain the level of appearance the town now enjoys. In the past, attention has been focused on the downtown area which has resulted in certain individuals and groups planting rose gardens and trees in order to help preserve the image of the central business district. In order for the central area to continue as a commercial center, all businesses within the district will have to continue their efforts to improve and maintain the high image that the central area has projected.

Several commercial areas have developed outside of the central business district in Landis and more are inevitable. Much business is being lost to the nearby shopping centers of Concord and Kannapolis. These commercial centers make it increasingly important for the central town merchants of Landis to improve and expand their establishments in a planned, orderly manner to accommodate the consumers.

Other Commercial Areas

There are three other commercial areas within Landis and the outlying area that have been developed commercially to a certain extent and are expected to continue to develop over the planning period.

The first location lies within the corporate limits of Landis along Highland Avenue and South Main Street.

The second location is within the one mile perimeter of Landis in the eastern sector along Highway 29 Bypass. Limited commercial activity is already evident within this area. This area is near the growing residential areas of the southeast and, being adjacent to Highway 29 Bypass, provides good access to other locations in the community.

The third site is also located in the outlying area in the northern section of town along Highway 29A. Most of the commercial development along this highway could be classified as strip commercial highway oriented businesses. It is anticipated in the future that Landis and China Grove will add an additional two lanes to Highway 29A, making this highway a four lane link between these two towns. In the future, attention should be given to limiting commercial development along Highway 29A. After completion of proposed modifications to 29A, it should serve its designed purpose. That is, the purpose of moving traffic and serving abutting property. With this in mind, strip commercial development along this arterial would defeat the purpose of the arterial by creating traffic problems of entering and exiting to these establishments.

It can be seen by viewing the future land use maps that an attempt has been made to avoid scattered and spot commercial development. In order to avoid such development, specific areas for commercial growth have been designated which provide enough land to allow proper setbacks and ample parking. This will eliminate many of the unpleasant characteristics of spot and strip commercial development.

Principles of Development - Industrial

Adequate areas to serve diverse types of industrial development and expansion should be provided by the Town of Landis. The town should encourage diversity in industrial development so that the area will be less sensitive to economic fluctuating, thus providing for a more stable tax base.

The town should make every attempt to encourage existing firms to remain and expand in the town in areas designated for industrial development. The town should have available sites which are relatively flat, drain well, contain soil and geologic characteristics capable of heavy load bearing capabilities, are free of conflicting existing land uses, and have adequate space for off-street parking and future expansion. The sites should also have available to them police and fire protection, refuse and garbage collection, and adequate necessary utilities.

Industrial Land Use

Industrial land use within Landis comprises approximately 33.83 acres or 6.2 percent of the developed land within Landis' corporate limits. The Town of Landis has a low but healthy economic base which is reflected by the low development percentage of 6.2 percent as compared to the National Average for developed industrial land use of 10-15 percent. Additionally, the town is lacking diversification in its economic base. Present industrial locations follow the approximate route of Southern Railway which bisects the town and then turns northwest and southeast, respectively.

When considering future industrial locations, either within a designated industrial park or expansion of the existing industrial site, separate areas should be chosen for those industries which may have objectionable characteristics such as noise, fumes, and smoke as opposed to light industry and warehousing categories which are not necessarily objectionable. Landis needs to diversify its economy. Any new industrial concerns wanting to locate in Landis which posses objectionable qualities should not be allowed to locate in the industrial areas adjacent to the central business district. More suitable sites could be found between Southern Railroad and the Highway 29 Bypass corridor northeast of Landis.

Locations for warehouses and light industry should be concentrated along the corridor between Main Street north and south and Southern Railroad. Such locations provide good access to transportation facilities, relatively flat land, available police and fire protection, as well as refuse and garbage collection and needed utilities.

Principles of Development - Public/Semi-Public

Schools and recreation are the largest and most important uses of areas of land in the public and semi-public category. They have a major influence on a town's development: the generation of residential construction, the need for enlarged water and sewer lines, and the need for safe and convenient access for pedestrian and vehicular traffic. Insomuch as the location of educational facilities exercises a major influence on the physical development of the community, continued cooperation and coordination between local school officials, the State Department of Education, and the Planning Board should be maintained. As stated previously in the Community Facilities Plan and Public Improvements Program of 1964, Landis should have one acre of park and recreational space for every 100 persons as recommended by the National Park Service and the National Recreation Association.

Public and Semi-Public Land Use

Throughout the Landis planning area there are numerous parcels of land devoted to public and semi-public uses. The nature of the various and varied uses in this category requires that they be scattered throughout the area in order to serve those who use them. In the town, there are approximately 37.54 acres (4.8 percent of the total developed land) devoted to public and semi-public uses. It is anticipated that throughout the remainder of the planning period Landis will need approximately 2.70 additional acres for public and semi-public uses. As stated previously, recreation and education are the two largest uses of areas of land in the public and semi-public category. In locating new recreational areas or educational facilities, consideration should be given to the influences that these developments will have on the community.

Interpretation of the Future Land Development Plan

When analyzing the Future Land Development Plan, it is important to understand its intent. The plan is intended to be a generalized guide to growth and not a map stipulating specific areas for development. The Future Land Use map contains proposed areas for future consumption by the different types of land use. It is also important to emphasize that the determination of how much land will be required for each type of land use at some future date varies with size of population. That is, the accuracy of projecting future space requirements is determined by the accuracy of projections of the population of the urban area. Since Landis and its environs must be classified as a relatively small area, the future space requirements for the area are not intended to be exacting or precise. The future space requirements can only provide an indication or guide for the allocation of the various land use in the development plan. It is hoped that over the planning period the plan will help to eliminate and discourage some of the mixtures which are not conducive to orderly community growth.

Principles of [illegible]

Schools and recreation are the [illegible]

[illegible]

Public and Semi-Public [illegible]

Land devoted to public and semi-public uses. The nature of the various and varied uses in this category requires that they be scattered throughout the area in order to serve those who use them. In the Town, there are approximately 17.54 acres (5.8 percent of the total developed land) devoted to public and semi-public uses. It is anticipated that throughout the remainder of the planning period [illegible] will need approximately 2.10 additional acres for public and semi-public uses. [illegible] recreation and education are the two largest uses of areas of land in the public and semi-public category. In locating [illegible] areas of educational facilities, consideration should be given to the influence that these developments will have on the community.

TRANSPORTATION PLAN

CHAPTER VIII

TRANSPORTATION PLAN

For many years planners have pondered the question of whether land use should dictate transportation needs or whether transportation needs should dictate the land use of a particular area. All agree, however, that both are closely related. The transportation needs of each type of land use are all different to some degree. Without the needed transportation facilities, certain types of land use could not exist. Therefore, a close relationship between the transportation plan and land development plan are essential in order to achieve an orderly growth pattern for the community.

It is the intent of the transportation plan to provide a comprehensive planning basis for new thoroughfare locations and for the improvement of existing thoroughfares in the planning area, serve as a guide in the location of other public improvements and of private development, and be related to or assist in the formulation of the land development plan for the area.

A transportation system within a nation, region, or community is the connecting factor which places within grasp of the area's people the resources necessary for a productive and comfortable living. A transportation system includes highways and roads, bus lines, air service, railway facilities, and other conveyance systems for both people and products. The system within the Town of Landis includes the street network and its relationship to the regional highway system.

Classification of Thoroughfares by Volume and Function

Freeways - A freeway is a divided, limited access facility which has full control of access with no traffic crossings at grade.

The freeway is designed solely for moving high speed traffic and does not service, nor provide access to, abutting properties.

Expressways - An expressway is a divided facility for the through traffic with full or partial control of access, but has some cross traffic intersections. An expressway, with minimum design characteristics, may be a facility entirely at grade but also may have frontage roads and controlled access features.

Arterials - The arterial street generally serves as the principal facility for through traffic flow in the urban area. Arterials utilize extensive traffic controls to facilitate the moving of through traffic.

A. Primary arterials - The primary arterial is intended to move through traffic to and from such major traffic generators as central business districts, regional shopping centers, and industrial areas.

B. Secondary arterials - The secondary arterial collects and distributes traffic also, except it services minor traffic generators as community--commercial areas, hospitals, and primary and secondary schools.

Collectors - The purpose of a collector street is to take traffic from a minor street to an arterial so that traffic can then move at a higher speed to its destination. The collector generally serves a neighborhood or large subdivision and should be designed so that no residential properties face onto the collector street.

Local Streets - The primary purpose of a local street is to provide individual access to properties abutting the street. Local streets should be designed to discourage through traffic.

Existing Street System

The existing street system in Landis is mainly composed of four highways and numerous collectors and local streets. Interstate 85 is located near the eastern border of Landis running in a north-south direction. In addition, U. S. Highway 29-601 bypasses the town and runs in a north-south route. U. S. Highway 29A begins in China Grove and extends to the corporate limits of north Landis and then moves southeast after starting again at the southern portion of the corporate boundary. Highway 29A provides good access to the central business district for the residential areas in the north and northwest and to residents living in the southern portion of town.

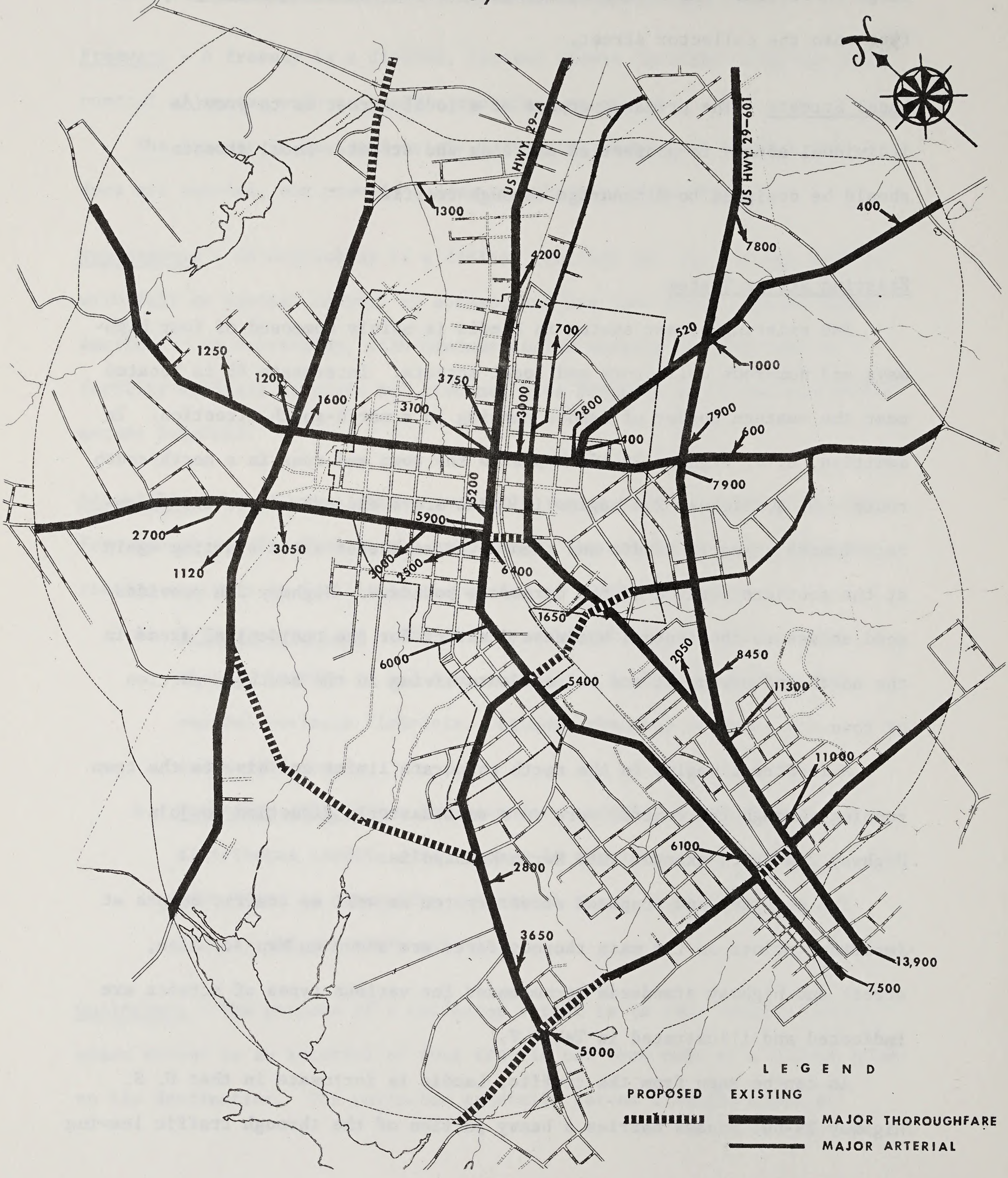
Main Street begins in the north corporate limits and bisects the town running through the central core in a southeasterly direction to join Highway 29A which extends into North Kannapolis.

The existing and proposed street system as well as traffic counts at important points on the main thoroughfares are shown on Map 7. Also, street and highway standards recommended for various types of streets are indicated and illustrated in Table V.

As can be seen from the traffic, Landis is fortunate in that U. S. Highway 29-601 Bypass carries a heavy portion of the through traffic leaving

SKETCH THOROUGHFARE PLAN

LANDIS, N.C.



(4300)–1972 ANNUAL AVERAGE DAILY 24 HOUR TRAFFIC VOLUME ON HARD SURFACED ROADS.

MAP - 7

the streets and highways within the town to local traffic. Because of this fact, Landis has a very good traffic flow with no major traffic problems, other than the frequency of railroad crossings. It is important, however, to stress that certain land development or street alterations can alter the function of the traffic system. Therefore, listed below are some adverse problems which should be avoided with respect to future street planning and subsequent improvements programs.

Traffic Hazards to be Avoided

(1) Lack of Continuity - In planning future street alterations or additions, careful attention should be given to streets continuing into or through the area served. Discontinuous streets primarily result in clogged intersections or terminated routes, slow traffic movement, and increased congestion. The traffic manipulation required by such intersections is always hazardous.

- (a) Jogs - jogs occur at the intersection of two thoroughfares where one is offset on each side of the intersection. Jogged intersections are hazardous, expensive, and always are difficult to manipulate by traffic controls.
- (b) Termination of Routes - thoroughfares should never terminate unless they serve a large traffic generator or at least have adequate terminal facilities and provision for accommodation of continuing traffic. Otherwise, traffic from the terminating thoroughfare becomes congested and overloads other streets.

TABLE V STREET DESIGN STANDARDS

	Freeways	Expressway	Primary Arterials	Secondary Arterials	Collectors	Local
Number of traffic lanes	4-8	4-8	4-6	4	2-4	2
Width of traffic lanes	12'	12'	12'	12'	12'	10'-12'
Number of parking lanes	None	None	2**	2**	1-2	1-2
Width of parking lanes	--	--	10'	10'	8'-10'	8'-10'
Minimum width of shoulders	4' left 10' right	4' left 10' right	--	--	--	--
Width of minimum border area	20'	14'	14'	14'	12'	10'
Other roadways	Where necessary	Where necessary	--	--	--	--
Sidewalks	None	5'**	5'	5'	5'	4'
Treelawn including border area**	Variable	18'	17'	17'	15'	12'
Width of median	16'	16'	16'	--	--	--
Minimum right-of-way width	Variable	120'	100'	80'	60'	50'
Design speed m.p.h.	60***	50	40	40	30-35	25-30
Design lane volume per hour	1500	1200	600-800	400-600	300	100
Stopping sight distance	475'****	350'	275'	275'	240'	200'

*In absence of curb and gutter, shoulders will be provided

**When provided

***Function of design speed may vary

****May vary

NOTE: Standards may vary with unusual situations.

(2) Inadequate Intersection Design and Control - Proper intersection design is directly related to enhanced safety, efficiency and street capacity. This affects traffic flow more than any other single factor.

(a) Acute angled intersection - thoroughfares should intersect at approximate right angles and have a minimum of an 80 degree angle at intersections in order to insure maximum safety.

(b) Intersection capacity - the intersection capacity (ability to move traffic) is affected by such problems as inadequate traffic lanes and inadequate traffic signals.

(3) Inadequate Right-of-Way - Right-of-way provides for grading, pavement, planting, utilities, and open space for the protection of roadway improvements from encorachment by adjacent uses. Right-of-way also provides space for pavement widening when traffic demand requires additional width.

(4) Inadequate Pavement Widths - Pavement width is described by lane width and the number of lanes. Acceptable lane width is generally assumed to be 12 feet. The number of lanes required will depend upon traffic volume.

The only traffic problem is caused by the railroad system which bisects the town. While the tracks are in use by the trains, traffic snarls occur delaying motorists, school buses, trucks and even possibly fire and police vehicles and personnel as they attempt to carry out their duty.

Other minor problems occur at peak hours in the morning and evening as business, industries, and schools begin and end their day's work. This is typical of all communities and certainly not evident only in Landis.

The existing street system in Landis, with only the few mentioned exceptions, seems to serve the town well. Both the citizens and officials of Landis seem pleased with the overall traffic system and flow. Several streets in all sections of the town are in need of curbing or resurfacing. There are 15.4 miles of streets within Landis, of which 14.5 miles are surfaced and .9 miles unsurfaced. The unpaved portions of East Taylor Street and Town Street are scheduled to be surfaced this spring. Additionally, the town has plans for minor work to follow later this summer to upgrade the conditions of existing streets in all sections of Landis.

Future Recommendations

There are a number of proposed streets to be added in the Landis area over the planning period. A connection is proposed in the southwestern portion of the town which would tie Cannon Farm Road and SR 1100 south. This connection will provide easier access for the western and southwestern sections of the town. There are additional streets which will be connected over the planning period which are documented in a study of the Kanlacon urban area prepared by the N. C. Department of Transportation, Planning Division. However, none will be completed over the North Carolina Department's Seven Year Highway Improvement Program through 1980.

It is recommended that Landis establish a schedule of resurfacing and surfacing in order to program the street improvements to coincide with sewer and water extensions. This would prevent any monetary waste as far as surfacing and then digging up newly surfaced streets to add utilities. Also, it is recommended that Landis work with Southern Railroad and possibly the North Carolina Department of Transportation in constructing a grade separation at one of the crossing points in town. This is the only major immediate expenditure necessary for improving the traffic circulation pattern in Landis and would provide access to the western section of town by emergency vehicles in the case of trains blocking the crossings. Recommendations established in the 1964 Land Development Plan that have not been implemented should continue to be followed.

It is expected that the present thoroughfare system will be adequate for future growth. It is important, however, that the present system be kept in good state of repair. Streets should be paved and improved according to a schedule in order to provide the kind of street system which Landis will need in the future. Map 7 illustrates the existing and proposed street system within Landis and the outlying area.

IMPLEMENTATION OF THE LAND DEVELOPMENT PLAN

CHAPTER IX

IMPLEMENTATION OF THE LAND DEVELOPMENT PLAN

The land use plan for Landis and the surrounding planning area cannot be effective unless measures are taken to insure its implementation. If the plan is to have meaning the persons responsible for implementing the suggestions and recommendations, as well as the public and private agencies within the community, must understand and agree upon the general goals and other proposals of the plan. The measures needed to implement the plan consist mainly of regulatory devices and are primarily the responsibility of the elected officials of the Town of Landis. The following are some of the planning tools that have been referred to throughout the land use plan and which have been made available to implement the plan by state legislation and constitutional provisions, local ordinances and judicial review.

Subdivision Regulations

The subdividing of land is the initial step in the process of building a community. The quality of the subdivision standards that make up the ordinance determines the form and character of a community. Once the land has been divided into blocks and lots, and streets and utilities have been installed, a permanent development pattern has been established which is unlikely to change.

Therefore, subdivision regulations applied in advance of development provide a community with its only opportunity to insure that its new neighborhoods are properly designed. Landis adopted subdivision regulations in 1968. Through provision for review of subdivision plats by the

Planning Board, Landis can be assured that development is coordinated with the appropriate utility and thoroughfare systems and that the development is of a quality and at a density that will further the goals and objectives of the Land Development Plan. It is recommended that periodical review of the adopted subdivision regulations become planning policy in order to insure the high quality and spirit of the existing regulations remain intact.

Zoning Ordinance

The zoning ordinance is considered to be one of the most familiar and most widely used regulatory methods of implementing the Land Development Plan. The zoning ordinance is used to establish districts of higher and lower uses such as residential, commercial, and industrial and establishes standards for each district. For example, the standards regulate uses permitted, density of population and structure, lot size, coverage of lots by building, building setback, and off-street parking.

Zoning could help implement the proposed land use plan for Landis if the ordinance is predicated upon the land use goals, objectives, and standards established in Chapter 3. In the legislation passed by the N. C. General Assembly to enable towns to enact zoning ordinances (N.C.G.S. 160-174) is the requirement that "such regulations shall be made in accordance with a comprehensive plan...." Thus it is mandatory that the zoning ordinance and the Land Development Plan be in harmony and lead to the achievement of the stated goals for community development. Interpretations of the zoning ordinance by building inspectors and boards of adjustments should also reflect the influence of the Land Development Plan as the ultimate statement of public policy on land uses.

Landis has had zoning since 1965. The Rowan Municipal and County Planning Board, Landis Town Board, and Landis Planning Board are currently working with the zoning ordinance in order to bring the principles and policies in compliance with the 1964 Land Development Plan. However, it is recommended that with the formulation of an updated Land Development Plan for Landis, a review and update of the zoning ordinance be done in order to meet the changing events and improved concepts.

Codes and Ordinances

The Town of Landis has adopted minimum standards in many construction activities. There are two types of regulations which are used to insure that new construction and existing structures meet minimum standards. Standards for new construction include building, plumbing, electrical, and gas codes. Existing structures are regulated through a minimum housing code. Landis does not have a minimum housing code; however, the town does have a building code for new construction.

It is recommended that the Town of Landis consider, when economically feasible, adopting a minimum housing code and hiring a full time zoning administrator to enforce the codes. Additionally, the minimum housing codes could be used as an implementation tool for the Land Development Plan. As old houses are condemned and demolished and the land becomes available for redevelopment, it should be developed according to the proposed plan. It is suggested that this section be given some consideration when the codes are established. It is possible for Rowan County and the Town of Landis to work together in establishing a minimum housing code. In doing so, this would establish the ground work for future county and town coordination and cooperation in an attempt to bring standard codes throughout the area and in making this area a more desirable place in which to live and work.

Urban Services

Sewer and water facilities are essential in all areas. The extension of such utilities can be an effective method of guiding the growth of a community. With available water, sewer, and electricity land can be developed. Without these utilities growth is stymied. For this reason it is important that realistic policies be adopted to govern the extension of utilities toward fulfillment of the Land Development Plan.

Continued Program Planning and Priority Listing

The Land Development Plan is the initial step in developing a framework for a planning program. If the Land Development Plan is to be implemented, a continuing program is essential through the preparation of a public improvements program and capital budget. The public improvements and capital budget program consists of two parts. First is the scheduling of public facilities needed and an establishment of priorities for improvements. Secondly is a study of past budgets and a six year projection of future revenues and expenditures to determine the amount of revenue the town would need for public improvements. An analysis is also made of the debt structure of the town in order to estimate if it would be feasible at a designated time to finance such a capital improvement.

Inherent in the concept of the Land Development Plan is the idea of review and constant reexamination of goals and basic policies. A static, unresponsive plan can be as bad as no plan at all. Nowhere is this idea more important than in the capital budget process. The five year time period of the capital budget as extended annually makes necessary a review of projects versus goals by the department heads and administrators who are vested with the immediate discharge of the public responsibility. This review combined with the requirement for the annual approval of the budget by the governing body complete the system of inventory, analysis, scheduling, selection, adoption, and review which connotes the capital budget program.

Annexation

Annexation can be a tool used for implementation of the Land Development Plan through procedures and powers delegated to the towns by the N. C. General Assembly. The general goal of annexation is a more orderly growth; therefore, it is a fitting tool to implement the Land Development Plan.

ENVIRONMENTAL ASSESSMENT

CHAPTER X

ENVIRONMENTAL ASSESSMENT

During the past ten years, the American public has become increasingly interested in our environment, and we have all begun to realize that practically everything we do has some effect on the air we breathe, the water we drink, and the land upon which we live. The Environmental Assessment seeks to analyze the possible environmental effects, both beneficial and detrimental, with regard to the proposals and recommendations set forth in the Land Development Plan.. This section of the report will discuss the recommendations and proposals with respect to their possible influence on air and water quality, land resources, human resources, and the general ecology of the town.

Following is a listing and analysis of the possible environmental effects of recommendations set forth in the Land Development Plan.

Land Development Plan

Land Use Plan

The land use plan for Landis recommends a system of orderly growth and development for the town in the future. By outlining proposals for certain land uses in specific areas, the aesthetic value of the land in Landis should be improved. Planned land use patterns will eliminate much of the intermingling of incompatible land uses.

A forecasted increase in population from 2,297 in 1970 to approximately 2,474 in 1990 will require more land developed for residential use. Along with this increase will be increases in the amount of land needed for facilities serving residential areas; i.e., schools, parks, churches, etc. The proposals for development of commercial and industrial areas are for planned centers of these activities. Thus, they can better be served by public facilities and the number of these uses scattered throughout the town.

Water quality in the Landis area is not expected to be affected significantly by future development. There are only a few small streams in the planning area and discharges will be required to provide extremely high degree of treatment. The small streams in the area will make regionalization of wastewater treatment most desirable and necessary. All of the discharges and treatment systems will be under regulation of Federal and/or State authorities. Construction of public and private sewer facilities should conform to the recommendations of the 201 plan which is in the process of being prepared. The plan will determine the most cost effective method for wastewater collection and treatment and protection of water quality.

There are no major air polluting industries in the Landis area. It is not anticipated that heavy industries creating substantial amounts of air pollution will be locating in Landis in the near future.

The only irretrievable commitments of natural resources will be the number of acres cleared to accommodate future development.

Public and Semi-Public Services

Proposals for improving public services should have positive effects on the town's environment. Improvements and additions to the schools will have a very positive effect on upgrading a vital human resource. The quality of education should be improved when additions and improvements are constructed as needed by the school officials.